

**The effect of caudal anesthesia block on perioperative pain control and reduction of the anesthetic agent in pediatric infra-umbilical surgery: A prospective randomized trial**

**Ethical approval Date 31/12/2019** IRB approval number: 123311219,

This study was ethically approved by the Secondary Care Medical Research Subcommittee, Salmanyia Medical Complex (SMC), Governmental hospitals, Kingdom of Bahrain (IRB approval number: 123311219, approved date: 31<sup>st</sup> December 2019). . A written informed consent which includes the use of patient's data for research and educational purposes was obtained from all the patients'/control's parents/guardians before the intervention. . This study followed the guidelines laid down in Declaration of Helsinki of 1975, and as revised in Edinburgh 2000

**Aims:** This study aimed to compare the effectiveness of adding CEB to general anesthesia (GA) in terms of intra- and post-operative pain management.

**Design:** Prospective, randomized case-controlled study.

**Setting:** Operation theater, and postoperative recovery rooms at Salmanyia medical complex, Bahrain.

- potential benefits.
- Using general anesthesia (GA) alone for intraoperative and perioperative pain control in pediatric patients undergoing infra-umbilical surgery requires high doses of opioids and inhalation agents and increases postoperative analgesic use leading to prolonged recovery.

- Caudal epidural block (CEB) has the faster start of sensory and motor block and longer postoperative analgesia duration. This can reduce anesthetic medicines used during the maintenance phase.
- Adding CEB to GA makes it more effective, and safer with better parental satisfaction.
- Patients who received CEB required fewer hypnotics and sedatives while remaining vitally stable. CEB had high analgesic efficacy, excellent peri-operative effects, and early recovery room discharge.
- **| Risk and complications:**

- In our study, 74 Patients out of the 38 children who received a CEB, only two children had complications including block failure in two patients (5.3%), blood aspiration in one patient (2.6%), and dural puncture in one patient (2.6%). This is considered as a low rate of complications.

- **Procedure technique**

Once the patient was shifted to the operating theatre, the patient's age, sex, weight, height, types of surgeries will be performed, and the type of GA induction and maintenance agents were recorded in the anesthesia charts in two groups. Patients in group A will receive CEB under GA. After securing the airway, the child will be turned onto the lateral decubitus, and CEB will be introduced via a landmark-based, blind technique.<sup>[9]</sup> A 22-25 gauge hypodermic needle (GE Datex Ohmeda, USA) will be used. Then, the surgery will be started after 20 min from the GA induction. Patients in group B will be taken directly to the surgery under GA alone.



Dear Dr. Zeana Amer,

We would like to inform you that the **Secondary Health Care Research Sub Committee (SHCRC)** has approved your research proposal titled "**The Effect of the Caudal Block on Reduction of the Anesthesia Agents in Pediatric Surgery**", in the meeting 16/19 held on 31/12/2019.

We all wish you a successful research and request you to update us with its progress.

Best wishes.

Regards,

On behalf of the SHCRC

**Dr. Eman Farid**  
Head of the SHCRC

Dr. Eman Farid  
Consultant Immunologist  
Pathology Department SMC  
Code No. 413

Ministry of Health  
Secondary Health Care Research  
Subcommittee  
اللجنة الفرعية لبحوث المساعدة بالرعاية التأمينية  
وزارة الصحة

NB : Research proposal approval number is :

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